

REMARKS

Applicant has reviewed and considered the Office action dated Sept. 27, 2004. In response thereto, claim 1, 3, 4, and 5 are amended. claim 6 is canceled.

Claim 1-3 are rejected under 35 U.S.C 102b as being anticipated by Moody.

Claim 1 recites a mop including a long handle, the long handle having an upper handle, a bow portion, and a lower handle, the bow portion having two end, one end of the bow portion connects to lower end of the upper handle, and another end of the bow portion connects to upper end of the lower handle, the bow portion is for users holding mop and turning easy while twisting the mass of absorbent material.

Moody discloses: a mop comprising a long handle having an upper handle 10, a lower handle 15, and a bow portion 13, one end of the bow portion connected to the upper handle, another end of the bow portion holds one end of a mass of absorbent material. Also, Moody discloses: the lower handle passes through the upper handle, and the lower handle is movable in the upper handle.

Clearly, no such connection occurred between the upper and lower handle in the present invention. Yet, either location or function of the bow portion in present invention are different with Moody's. Obviously, claim 1 patentably distinguishes over Moody's. Other claims dependent from claim 1, are also patentable.

In view of the above, it is respectfully submitted that the present application is in a condition for allowance. Reconsideration of the application and a favorable response

are respectfully requested.

Respectfully submitted,

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EASY MOP

Related Patent Application

This patent application claims the benefit of Provisional Application, U.S. Serial No.60/269,564, filed February 16, 2001, entitled " EASY MOP " by Jianhua Fan.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a mop, more particularly to (a easy) an easy twisting mop for saving man power and keeping user's hands dry.

2. Description of the Prior Art

Most of the existing mop have no bow (sharped) shaped portion or called extended arm of force on it, so that, users have directly to use hands to squeeze water out of the mop.

Some (exinting mop) existing mop apparatus has been improved to keep hands dry while (user) users twist it, but the mops have no bow (sharped) shaped portion or called extended arm of force on it, so that users can not save their power, and water is not easy (to squeeze water) squeezed out of the mop(, especially for female).

It can be seen then that there is a need for a mop which easily (squeeze water) squeezes water out of the mop, (meanwhile save) saves man power and keeps hands dry. The present invention provides a solution to solve the above and other related problems.

SUMMARY OF THE INVENTION

The present invention relates to a mop, more particularly to (a easy) an easy twisting mop to easily squeeze water out of the mop , yet (saves) save man power and (keeps) keep hands dry.

The present invention discloses (a easy mop) an easy mop which allows user easy to twist a wet mop, (meanwhile saves) save man power and (keeps) keep hands dry.

In one embodiment of the present invention, (a easy mop) an easy mop includes a long handle, the long handle having three portions: an upper (portion) handle, a bow (sharped) shaped portion and a lower (portion) handle; a mass of absorbent material, one end of the mass of absorbent material fixed on the lower end of the (long) lower handle, the other end of the absorbent material fixed on a sleeve, the lower (portion of the long) handle passes through into the sleeve, a twisting handle disposed on the sleeve, the sleeve can be moved along the lower (portion of the long) handle. (Two parts: bow sharped) A combination of the bow shaped portion and the twisting handle(, made the extended arm of force to save) makes man power saving possible (and keeps hands dry while user twists it), the twisting handle is adjustable, a bow holder may be disposed on the bow for easily turning around the bow while twisting the mop.

Still in one embodiment of the present invention, (a easy mop base) an easy mop which bases on the first embodiment includes a sleeve holder and a sleeve control, the sleeve holder and control disposed on the lower (portion of the long) handle for easily twisting the mop. The sleeve control (control) controls the sleeve moving distance and (release) releases the sleeve from the sleeve holder while push the control button.

In another embodiment of the present invention, (a easy) an easy mop includes a long handle, the long handle having three portions: an upper (portion) handle, a bow (sharped) shaped portion, and a lower (portion) handle; a mass of absorbent material, a first (absorbent material) holder, and a metal bar, the metal bar includes: a main bar, an extension bar, a second (absorbent material) holder, and an extension bar handle; the (sharp) shape of first and second holders can be different, also the second holder can be disconnected from the main bar. Two holes: the first hole disposed on the long handle between the bow (sharped) shaped portion and the lower (portion) handle, the second hole disposed on the center of the first holder, the main bar passes through the first hole (, the lower portion) and lower handle, then the second hole. Each of the absorbent material turned around the second holder, two end of the each absorbent material then fixed on the first holder. While the mop is in use position, the metal bar (being) is pulled up and (holded) held by a metal bar holder, while the mop is in (going to squeeze water out the mop) twist position, the metal bar is pulled down (the metal bar, one hand hold the bow sharped portion, another hand hold the extension bar handle, the water being easily squeezed out from absorbent materials when user turn around the extension bar around).

Further, in one embodiment, the mop having a big sleeve, the big sleeve having a side wall, a top wall, a center hole, and a multiple wing like piece; the center hole disposed on the top wall for lower(portion passing) handle passes through the big sleeve, the multiple wing like piece disposed on (the) inside surface of the side wall of the big sleeve, when the big sleeve (being) is pulled down and turned around, the water in the absorbent material being twisted out by the multiple wing piece; a twisting handle

disposed on the big sleeve for saving man power, the twisting handle is adjustable.

(While twisting the mop, one hand hold the twisting handle,another hand hold the bow shaped portion and turn it around, the water in the absorbent material being twisted out by the multiple wing piece, while the mop in use, pull up the big sleeve and holded by the sleeve holder).

BRIEF DESCRIPTION OF THE DRAWINGS

A better understanding of the construction and operational characteristics of a preferred embodiment can be realized from a reading of the following detailed description, especially in light of the accompanying drawings in which like reference numerals in the several views generally refer to corresponding parts.

Figure 1 is a front view of one embodiment in twisting position of (a easy) an easy mop in accordance with the principles of the present invention.

Figure 2 is a side view of the mop shown in Figure 1.

Figure 2a is a regular mop.

Figure 3 is a front view of the easy mop in using position shown in Figure 1.

Figure 4 is a side view of the easy mop in using position shown in Figure 1.

Figure 5 is a front view of the easy mop in twisting position with sleeve control shown in Figure 1.

Figure 6 is a side view of the easy mop in twisting position with sleeve control shown in Figure 1.

Figure 7 is a cross-sectional view of (a enlarged) an enlarged part of long handle, a sleeve, a twisting handle, sleeve control and holder shown in figure 6.

Figure 8 is a front view of the parts shown in Figure 6.

Figure 9 is a side view of a second embodiment in twisting position of (a easy) an easy mop in accordance with the principles of the present invention.

Figure 10 is a side view of the easy mop in using position shown in Figure 9.

Figure 11 is a side view of the easy mop in twisting position with different size

of the absorbent material holders shown in figure 9.

Figure 12 is a side view of the easy mp in using position shown in Figure 11.

Figure 13 is a side view of a third embodiment in using position of (a easy) an
easy mop in accordance with the principles of the present invention.

Figure 14 is a cross-sectional view (of a) of an enlarged big sleeve shown in
Figure 13.

Figure 15 is a bottom view of the big sleeve shown in figure 14.

Figure 16 is a side view of a regular mop with a long hand holder, a sleeve with
a twisting handle.)

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The present invention relates to a mop, more particularly to (a easy) an easy twisting mop for saving man power and (keeps) keeping hands dry while (user) a user twists it.

The present invention discloses (a easy) an easy twisting mop which allows user to save man power and (keeps) keep hands dry, meanwhile, water (being) is easy squeezed out of the mop. Further, the present invention discloses a mop having a bow or an extension handle on the long handle, and a sleeve with a twisting handle or a metal bar, the twisting handle may adjustable. The combination of a bow or extension handle (combine with) and the twisting handle or metal bar(, twinting) makes twisting (a mop become) very easy.

The present invention also discloses that the mop may includes a sleeve control and a sleeve holder for easily twisting the mop, and the mop may includes a bow holder for easily (turn around it) turning around. Furthermore, the present invention discloses that a mop includes a metal bar, the metal bar includes: main bar, extension bar, extension handle, and a second (absorbent material) holder. The main bar passes through a hole which disposed on the lower (long) handle, (the lower portion,) and (the) a hole on the center of the absorbent material holder. The second holder can be assembled to or disassembled from the main bar.

In the following description of the exemplary embodiment, reference is made to the accompanying drawing which form a part hereof , and in which is shown by way of illustration the specification embodiment in which the invention may be practiced. It is to

be understood that other embodiments may be utilized as structural changes may be made without departing from the scope of the present invention.

In Figure 1 to 4, there is generally illustrated by reference numeral 1, one embodiment of (a easy) an easy mop in accordance with the principles of the present invention. The easy mop 1 includes a long handle 2, a mass of absorbent material 4, an absorbent material holder 6 (may not (includes) include the holder 6, if so, the mass of absorbent material being fixed on the lower end of the (long) lower handle), and a sleeve 8. The long handle 2 having three portion: an upper handle 3, a lower handle 7, and a bow shaped portion 5. The absorbent material holder 6 connected to the lower end of the (long handle) lower handle and one end of the absorbent material being fixed on the holder 6. The sleeve 8 (hold) holds another end of the absorbent material, and a twisting handle 10 connected to the sleeve. A sleeve holder 24 disposed on the lower handle 7, the sleeve 8 can be moved up and down on the lower handle 7. Figure 1 is in the twisting position. Figure 2 is a side view of the mop shown in Figure 1. Figure 3 is a front view and Figure 4 is a side view in using position of the mop shown in Figure 1.

In Figure 5, a sleeve moving control 22 and holder 24 illustrated, in Figure 6, a bow holder 26 for easily turning the bow around illustrated.

Figure 7 shown how the sleeve holder works. while push the control button 22, the sleeve 8 (being) is released from the holder 24. Figure 8 is a front view of the sleeve, twisting handle 10, and sleeve moving control shown in Figure 7.

In Figure 9, a second embodiment of (a easy) an easy mop in accordance with the principles of the present invention is illustrated. The mop 50 includes a long handle 2,

a mass of absorbent material 4, a first (absorbent material) holder 6, and a metal bar 30. The long handle 2 having three portion: an upper handle 3, a lower handle 7, and a bow 5, one hole 16 disposed on the long handle. The first holder 6 being connected to the lower end of the long handle, the ends of the absorbent material being fixed on the holder 6, a hole 18 disposed on center of the holder 6. The metal bar 30 includes main bar 33, extension bar 31, extension bar handle 32, and a second (absorbent material) holder 36, the second holder 36 can be assembled to or disassembled from the main bar, the main bar passes through the hole 16, the lower handle 7, and the center hole 18 on the absorbent material holder 6, then (connect) connects with the second holder 36. Figure 10 is a side view in using position of (a easy) an easy mop shown in Figure 9 and the metal bar 30 being holded by the holder 38 illustrated.

Figure 11 to 12 shown the different style of the two holders 37 and 39.

Figure 13 to 15 illustrate a third embodiment of (a easy) an easy mop 60 in accordance with the principles of the present invention. Similar to the easy mop 1 shown in Figure 1 to 8, the mop 60 includes a long handle 2, a mass of absorbent material 4 (maybe includes an absorbent material holder 6, if not, the mass of absorbent material being fixed on the lower end of the long handle), and a sleeve 40. The sleeve 40 is bigger than the sleeve 8, and the sleeve 40 does not (hold) holds the absorbent material. The sleeve 40 having a side wall, a top wall, and a center hole disposed on the top wall, a twisting handle 10 is adjustable, a multiple wing piece 45 disposed on the inside wall of the sleeve, while the mop is in use, the sleeve 40 (been) is pulled up and (hold) held by the holder 24(, while twisting the mop, push the control button 22 to release the sleeve 40 and pull down to lower position, hold the twisting handle 10, turn the bow

around, the water in the absorbent material being easily squeezed out by the multiple wing like piece).

In the present invention, the twisting handle 10 and the bow 5 on the long handle in physics mean that the arm of force of the mop has been extended, so that, man power has been saved while twisting the mop. For example, if the arm of force of a regular mop is one inch (distance a to b in Fig. 2a, arm of force of most regular mop is less than one inch), and if the arm of force of the easy mop in the present invention is 3 inches (the distance between the point A and B in Fig. 2), while twisting a mop, if users use 30 pounds force to squeeze water out of the regular mop, users need only 10 pounds force to squeeze the same water out of the easy mop, clearly, (use) using easy mop, users can save two thirds of power in this (example) way. (Under the extended arm of force principle, the easy mop can be modify to: a mop having a twisting handle 10, and a long handle holder 66 (see Figure 16, numeral 88, the long handle holder instead of a bow), user can still save power even if the mop is not easily to be turned around to squeeze water out of the mop).

The forgoing description of the exemplary embodiment of the invention has been presented for the purposes of illustration and description. It is not intended to be exhaustive or to limit the invention to the precise form disclosed. Many modications and variations are possible in light changing of the above teaching. It is intended that the scope of the invention be limited not with this detailed descroition, but rather by the claims appended hereto.

ABSTRACT

(A easy) An easy mop which allows user to easily squeeze water out (of it, meanwhile, saves) , save user's power and (keeps) keep hands dry (. The easy mop) includes: a long handle with an extended arm of force either a bow portion or a handle, a mass of absorbent material, a sleeve with a twisting handle or a metal bar instead of the sleeve and twisting handle. (While twisting the mop, one hand hole the twisting handle, another hand hold the bow or handle then turn around, the water being easily squeezed out of the mop.)